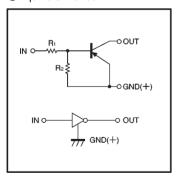
# Digital transistors (built-in resistors) **DTA113ZE / DTA113ZUA / DTA113ZKA /** DTA113ZSA

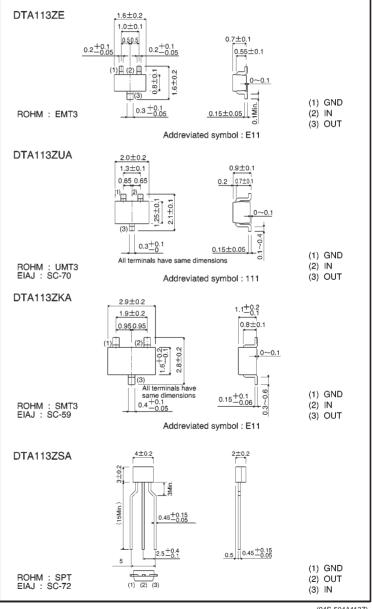
#### Features

- 1) The built-in bias resistor allows the configuration of an inverter circuit without connecting any external input resistors (see Equivalent circuit).
- 2) Each bias resistor is a thin-film resistor. Since they are completely insulated, the input can be positively biased. The insulation also eliminates most of the parastic effects.
- 3) Circuit design is simplified since only the OFF and the ON conditions have to be set.
- Structure PNP digital transistor (with built in resistors).

#### Equivalent circuit



## External dimensions (Units: mm)



# ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol		Unit			
- raiaillelei		E	UA	KA	SA	Onit
Supply voltage	Vcc		٧			
Input voltage	VIN		V			
Output current	lo		mA			
	IC(Max.)					
Power dissipation	Pd	150	20	00	300	mW
Junction temperature	Tj		c			
Storage temperature	Tstg		$^{\circ}$			

# ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Input voltage	VI(off)	_	_	-0.3	.,	Vcc=-5V, Io=-100 μ A	
	VI(on)	-3	_	_	V	Vo=-0.3V, Io=-20mA	
Output voltage	VO(on)	_	_	-0.3	٧	Io/II=-10mA/-0.5mA	
Input current	lı	_	_	-7.2	mA	V <sub>1</sub> =-5V	
Output current	IO(off)	_	_	-0.5	μΑ	Vcc=-50V, Vi=0V	
DC current gain	Gı	33	_	_	_	Vo=-5V,Io=-5mA	
Input resistance	R <sub>1</sub>	0.7	1	1.3	kΩ	_	
Resistance ratio	R2/R1	8	10	12	_	_	
Transition frequency	f⊤	_	250	_	MHz	Vc=-10V, Ie=5mA, f=100MHz *	

<sup>\*</sup> Transition frequency of the device

## Packaging specifications

	Package	ЕМТЗ	UMT3	SMT3	SPT
	Package type	Taping	Taping	Taping	Taping
	Code	TL	T106	T146	TP
Part No.	Basic ordering unit (pieces)	3000	3000	3000	5000
DTA113ZE		0	_	_	_
DTA113ZUA		_	0	_	_
DTA113ZKA		_	_	0	_
DTA113ZSA	1	_	_	_	0

### Electrical characteristic curves

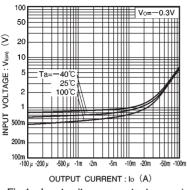


Fig.1 Input voltage vs. output current (ON characteristics)

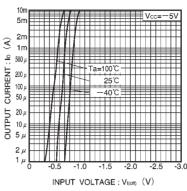


Fig.2 Output current vs. input voltage (OFF characteristics)

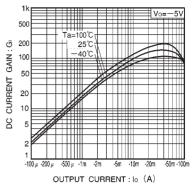


Fig.3 DC current gain vs. output current

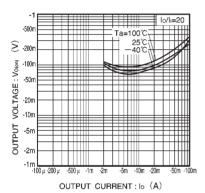


Fig.4 Output voltage vs. output current

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